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(71) Applicants (for all designated States except US):
NEUREN PHARMACEUTICALS LTD. [NZ/NZ];
Level 3, 2-6 Park Avenue, Grafton, Auckland (NZ).
NEUREN PHARMACEUTICALS INC. [US/US]; 3
Bethesda Metro Center, Suite 700, Bethesda, Maryland
20814-5337 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **GUAN, Jian**
[NZ/NZ]; 29 Arran Street, Avondale, Auckland (NZ).
THOMAS, Gregory, Brian [AU/NZ]; 30A Fraser Road,
Devonport, Auckland (NZ). **BATCHELOR, David,**
Charles [NZ/NZ]; 58A Ballarat Street, Ellerslie, Auck-
land (NZ). **GLUCKMAN, Peter, David** [NZ/NZ]; 78
Lucerne Road, Remuera, Auckland (NZ).

(74) Agents: **BORSON, D., Benjamin et al.; FLIESLER
MEYER LLP**, Four Embarcadero Center, Fourth Floor,
San Francisco, California 94111-4156 (US).

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(54) Title: NEUROPROTECTIVE EFFECTS OF GLY-PRO-GLU FOLLOWING INTRAVENOUS INFUSION

(57) Abstract: Gly-Pro-Glu (GPE) is rapidly metabolized in vivo. We found that GPE infusion elicits potent and consistent neu-
roprotection in all brain regions examined, and in certain embodiments, the effects were greater than those of a bolus injection
followed by infusion ("loading dose/infusion"). GPE reduced apoptosis in the hippocampus and inhibited microglial proliferation
and prevented the injury-induced loss of astrocytes and improved long-term somatofunction. GPE after infusion showed a broad
effective dose range (0.3-30mg/kg/h) and had a surprisingly extended window of treatment efficacy, permitting its use from 1 to at
least as late as 24 h after neural injury. We also found that neuroprotective effects of acute GPE administration were prolonged and
therefore capable of being used effectively to treat a variety of neurodegenerative conditions, even when administered after a neural
injury. Thus, GPE can be an effective neuroprotective agent used either alone or co-administered along with other neuroprotective
agents, antiinflammatory agents or peptidase or protease inhibitors. Compositions of GPE and protease and/or peptidase inhibitors
are provided.



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